

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

REMARKS

Claims 1-23 are all the claims pending in the application. Applicant adds new claims 24 and 25 to provide an alternate scope of coverage for the Applicant's invention in the claims.

The Examiner objects to the specification for not indicating in the section "Brief Description of the Drawings" that Figures 1-5 are prior art. Applicant amends this portion of the specification as shown in the Appendix to overcome this objection.

The Examiner also objects to the drawings as failing to comply with 37 C.F.R. § 1.84(p)(5) because they include the reference number P1 in Figures 6 and 10 which the Examiner alleges is not mentioned in the description. Applicant respectfully disagrees. Applicant overcomes this objection by pointing out to the Examiner that the pedestal P1, shown in Figures 6 and 10, is described in the specification at page 13, lines 12-14. Therefore, Applicant does not believe any corrections to the drawings that relate to the reference number P1 are required.

Claim Rejections under 35 U.S.C. § 112

The Examiner rejects claims 6, 13, and 17 under 35 U.S.C. § 112, second paragraph, alleging that these claims use the term "stripline" in a context inconsistent with its generally accepted definition in the art. Applicant amends claims 6, 13 and 17 to clarify that the transmission line has a strip shape.

Claim Rejections under 35 U.S.C. § 102

The Examiner rejects claims 1, 2, 6 and 7 under 35 U.S.C. § 102(b) as being anticipated by Ishikawa (U.S. Patent 4,902,991). Claims 3-5, 8-12, 14-16, 18, and 19 are objected to as

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant overcomes the rejection of claim 1 by amending it to include one of the patentable features of claim 3. Claims 2, and 4-9 are allowable at least by virtue of their dependence on base claim 1.

In addition, Applicant rewrites claim 3 in independent form to include all of the limitations of independent claim 1. Claims 10-16 are allowable at least by virtue of their dependence on claim 1. The amendments described are included in the Appendix.

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejects claims 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Ishikawa et al. (Ishikawa '991) in view of Ishikawa et al. (U.S. Patent No. 6,052,041, hereinafter Ishikawa '041). Claims 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Examiner acknowledges that Ishikawa '991 does not teach a plurality of signal pairs. The Examiner alleges that it would have been obvious at the time of the invention to combine Ishikawa '991 with the coupled pairs of resonators that are combined to form a plurality of signals as disclosed by Ishikawa '041 (Ishikawa '041, column 10, lines 10-24). The Examiner alleges that such a modification would have been a mere substitution of well-known art-recognized combiners.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

Applicant respectfully disagrees. If the resonators of Ishikawa '041 were combined with the device of Ishikawa '991, then the quarter-wave transmission lines disclosed in Ishikawa '991 (Ishikawa '991, column 3, lines 47-50) would be lost, because transmission lines of that length are only disclosed with the unique resonator shape of Ishikawa '991 shown in Figure 1. In other words, using the combined resonators of Ishikawa '041 would render Ishikawa '991 in operable. Therefore, it would not have been obvious to one of skill in the art to combine the references in the manner discussed by the Examiner.

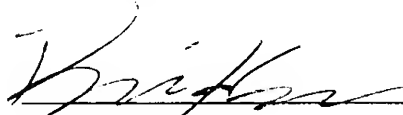
At least for this reason, claim 20 is patentable over the combination of Ishikawa '991 and Ishikawa '041. Claims 21-23 are allowable at least by virtue of their dependence on claim 20.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Brian W. Hannon
Registration No.: 32,778

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE



23373

PATENT TRADEMARK OFFICE

Date: July 1, 2003

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph at page 8, line 8 are changed as follows:

“Figure 1 is a drawing of a conventional two-channel ceramic combiner utilizing loop coupling.

Figure 2 is a reverse view of a conventional ceramic combiner with loop coupling.

Figure 3 is a schematic of a conventional two-channel combiner with sub-quarter wave lines combining outputs.

Figure 4 is a schematic of a conventional two-channel combiner with longer lines combining outputs.

Figure 5 is a cut-away view of a conventional ceramic resonator using common output coaxial resonator.”

IN THE CLAIMS:

The claims are amended as follows:

1. (Once Amended) A combiner, comprising:

a common port;

a plurality of cavity resonators;

a plurality of apertures; ~~and~~

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

a combining mechanism operably connected to said common port and coupled to said plurality of cavity resonators through said apertures; and
at least one edge pair of cavity resonators;
wherein said outputs of said edge pair of resonators are operably connected to said common port through half-wave transmission lines.

3. (Once Amended) A combiner, comprising:

a common port;
a plurality of cavity resonators;
a plurality of apertures;
a combining mechanism operably connected to said common port and coupled to said plurality of cavity resonators through said apertures.

~~The combiner according to claim 1, wherein said a plurality of cavity resonators comprises:~~

at least one edge pair of cavity resonators; and
a central pair of cavity resonators, wherein said outputs of said edge pair of resonators are operably connected to said common port through half-wave transmission lines and said center pair of resonators is operably connected to said central junction.

6. (Once Amended) The combiner according to claim 2, wherein said transmission line is a stripe combining mechanism is a stripline network.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

13. (Once Amended) The combiner according to claim 10, wherein said ~~combing~~
~~mechanism is a stripline network~~ transmission line is a strip.

17. (Once Amended) The combiner according to claim 11, wherein said transmission line is a
strip ~~combing mechanism is a stripline network.~~

Please add new claims 24 and 25.